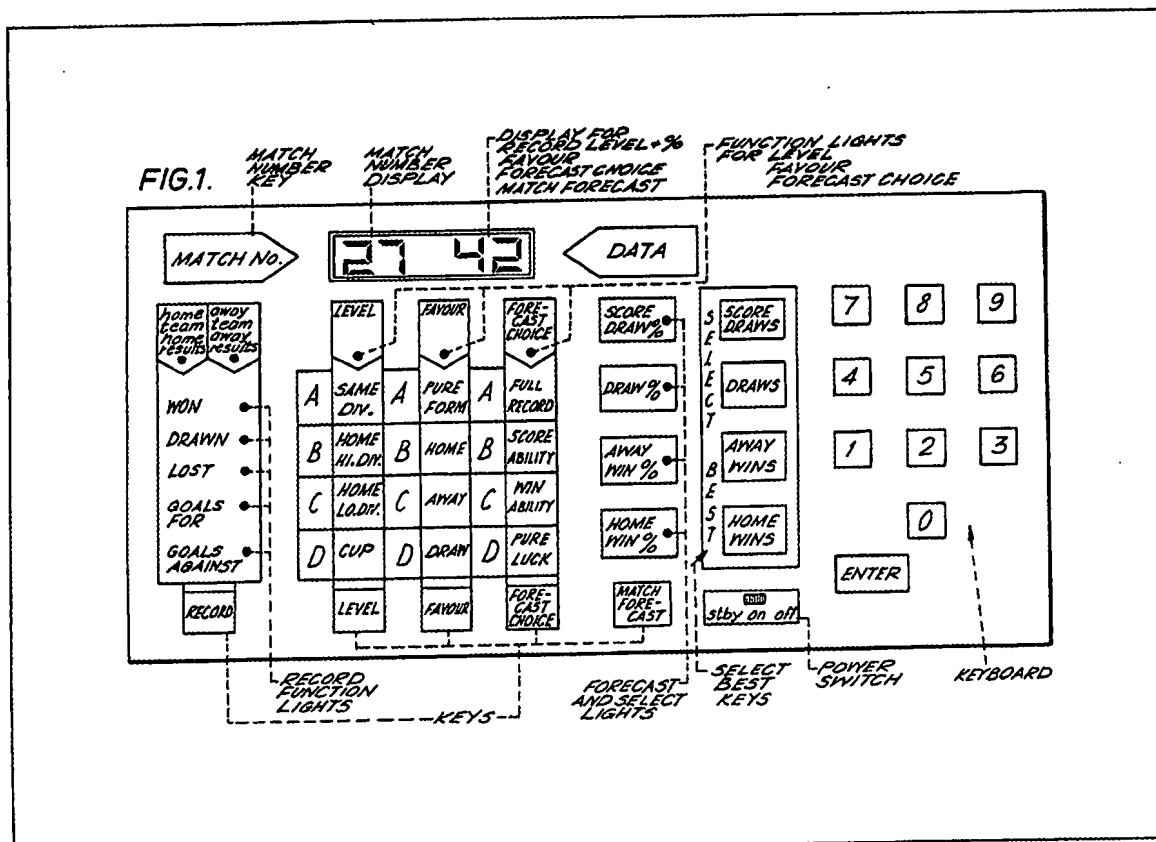


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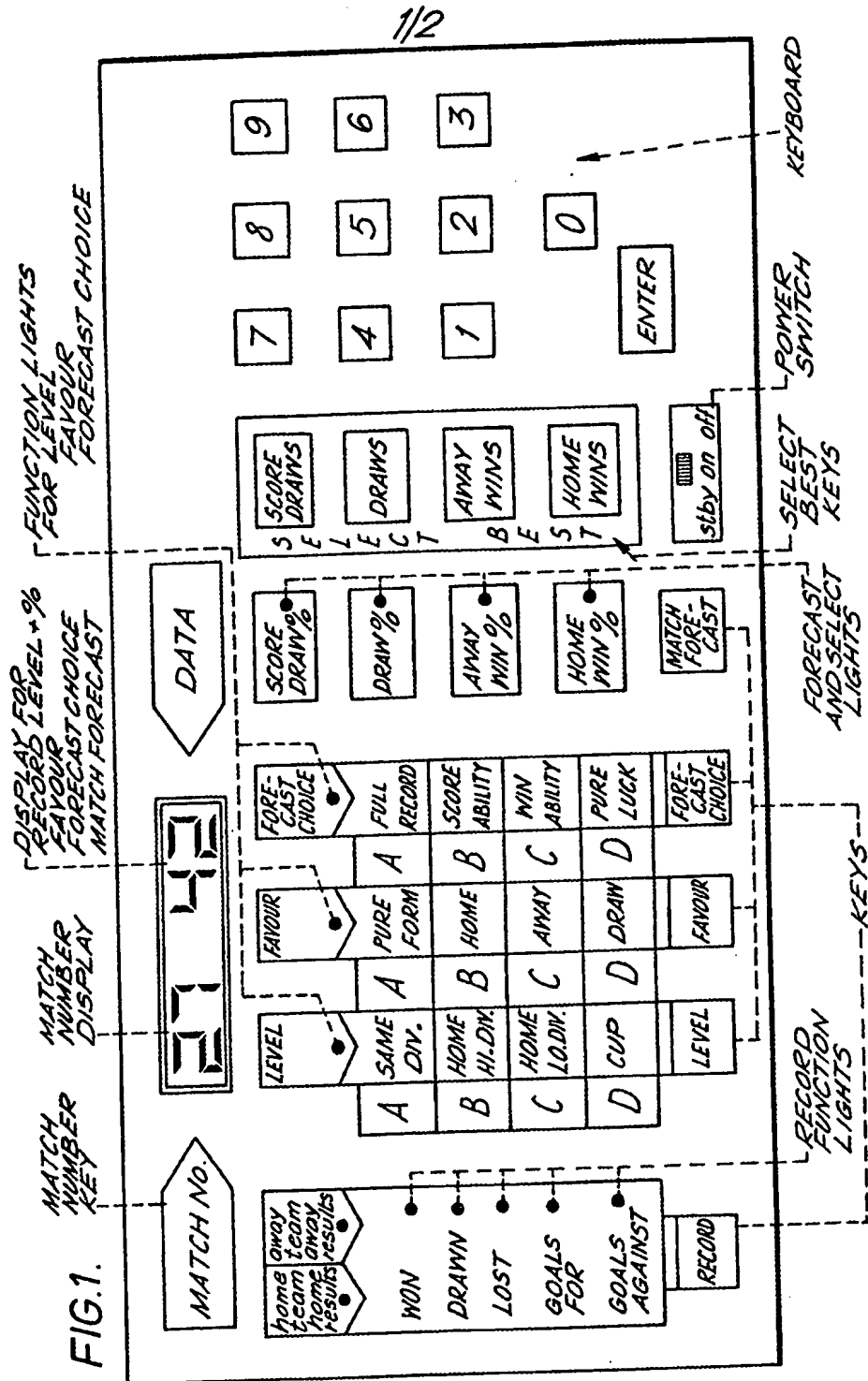
(54) A computing device for giving an indication of the probable result of a football match

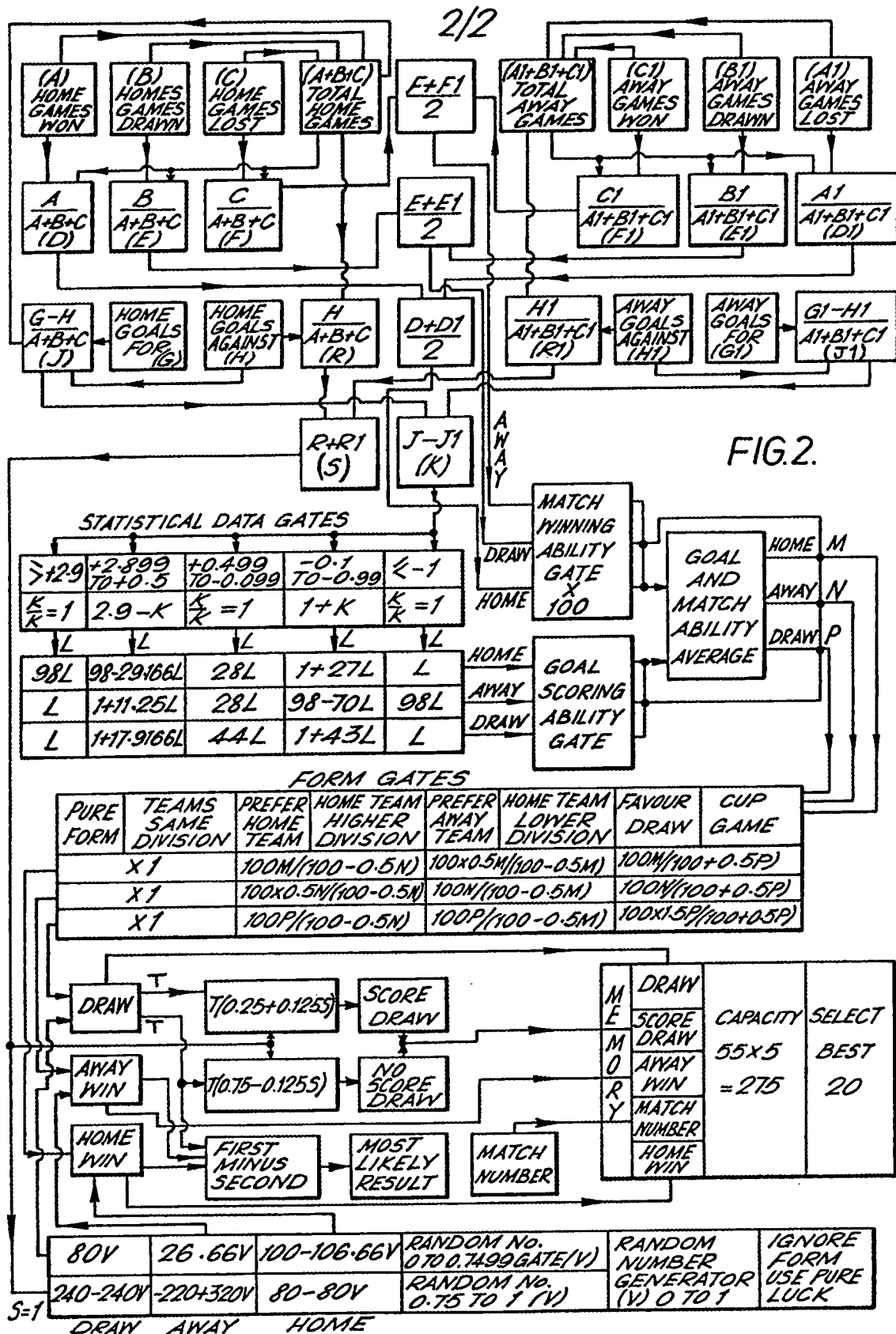
(57) The device comprises a case, a pre-programmed microprocessor in the case, a keyboard on the case and a display on the case for displaying such a result. There can be fed into the device, via the keyboard, data relating to past performances of a pair of teams, the device being programmed for using such data in predicting the probable result of a match between the teams and displaying on the display an indication of this result.



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The drawings originally filed was informal and the print here reproduced is taken from a later filed formal copy.





## SPECIFICATION

**A computing device for giving an indication of the probable result of a football match**

- 5 The present invention relates to a computing device for giving an indication of the probable result of a football match. 5
- The ability to forecast successfully the probable result of a future football match, for example for use in connection with the football pools, requires knowledge of the abilities of the competing teams and of the variables that can affect their current form coupled with an element of luck to cover unforeseen eventualities.
- 10 According to the present invention, there is provided an electronic computing device for giving an indication of the probable result of a football match comprising a case, a pre-programmed microprocessor in the case, a keyboard on the case and a display on the case for displaying such a result. 10
- Preferably, there can be fed into the device, via the keyboard, data relating to past performances of a pair of teams, the microprocessor being programmed for using such data in predicting the probable result of a match between the said teams and displaying on the display an indication of the result. 15
- The present invention will now be described, by way of example, with reference to the accompanying drawings, in which:
- Figure 1* is a view of the front panel of an example of a device according to the present invention; and  
*Figure 2* is a flow chart relating to the operation of the device's computer.
- 20 The device to be described comprises a case whose front panel is shown in *Figure 1* and which houses a pre-programmed microprocessor and batteries for operating the device. On the front panel, there is a keyboard having keys as shown, a power switch, further keys as shown, function and other indicating lights (such as light-emissive diodes) as shown and an electronic display for displaying match number and other data. The device may be used for telling a user what the chances are of the result of a future football match. 20
- 25 The chances of a home win, away win or draw are shown as percentages, for example: home win 50%; away win 20%; and draw 30%. The chance of a score draw is also computed, thus a 30% draw could include 10% no score and 20% score draw. The 20% score draw would be displayed. 25

## INFORMATION TO BE GIVEN TO THE DEVICE

- 30 *Results* 30
- From football tables in newspapers or the user's own records, the device is informed of the previous results that the home team has achieved when playing at home and the away team results when playing away. When forecasting more than one match, each match must be given a number.
- 35 *Level* 35
- The device's computer will assume that both teams are from the same division and playing in a league match unless it is informed differently, for example "Home team two divisions higher".
- Favour*
- 40 The device's computer will assume that both teams will play to their past forms unless it is informed that the user feels differently, for example "Favour away team". 40
- Forecast choice*
- The device's computer provides a choice of four forecasts for each match, namely: Score Ability Forecast compares the goal record of each team; Win Ability Forecast compares the wins, draws and losses of each team; Combined Forecast compares the score and win ability of both teams; and Pure Luck Forecast ignores all information on both teams and produces a random chance forecast. The user informs the device which forecast is preferred for each match. If it is left to the device, its computer will select a combined forecast. 45
- 50 *Match forecast* 50
- The device's computer is asked to show the forecast for one match, for example: Home win 50%, Away win 20%; Draw 30%; and Score Draw 20%.
- Select best*
- 55 The device's computer is asked to show Score Draws and/or Draws and/or Home wins and/or Away wins with the matches selected in their best order, for example: Match 42 Score Draw 56%; Match 19 Score Draw 48%; Match 4 Score Draw 45%; and so on. 55

## TO RECORD

- 60 *Information required from team records* 60
- Unless using a pure luck forecast, all of the information for both teams' records is required. The record lights illuminate to indicate the *next* number required from the team information. If it is wished to change or correct a record number after it has been entered, the ENTER key must be pressed repeatedly until all the record lights are out. All the correct data for that match must be entered again.

**Keyboard numbers**

Numbers are set in from the keyboard and appear on the right-hand side of the display. The numbers are not accepted by the device's computer until the ENTER key is pressed. If it is realised that a mistake has been made before the ENTER key has been pressed, the user just carries on by pressing the right numbers.

5

5

**Foul entries**

The device's computer will not accept operations that will spoil the forecast for a match. If such an operation were tried, EEEEEEE will be displayed and the user just carries on with the correct operation.

**10 EXAMPLE**

10

For the purpose of example, the following fictitious league table shown will be used, in particular the match of Man Rovers versus Liverton.

**League-Division 1**

15

15

		P	Home				Goals		Away				Goals		Pts
			W	D	L	F	A	W	D	L	F	A			
20	Oxbridge.....	42	19	2	0	51	4	11	6	4	34	12	68		
	Headford U.....	42	11	11	0	34	10	10	7	3	27	16	60		
	Man Rovers .....	42	13	5	3	38	15	11	6	4	34	20	59		
	Dartcaster .....	42	12	7	2	32	17	5	10	6	20	23	51		
	Scunpool .....	42	11	4	6	41	25	7	10	4	29	27	50		
	Liverton.....	42	11	4	6	34	21	9	5	7	29	28	49		
25	Portfield .....	42	11	8	2	37	18	6	6	9	24	30			
	Hullchester .....	42	8	9	4	37	25	7	7	7					
	Peterthorpe.....	42	9	7	4	29	25								
	Swanham .....	42	11	7	3										
	Aston House .....	42	7												
	Emptyham .....														

30

30

Step No.	Description	User Presses	Display match No.	data	<i>Lights</i> (Indicating next step)	
35	1 Switch power ON	Slide switch to ON	01			
	2	Match No.	00			
40	3 Set match No. on keyboard	1	01			
45	4 Set into mode for accepting data	RECORD	01	00	home team home results, WON	
	Use HOME TEAM HOME RESULTS in league tables					
50	5 Set home games WON on keyboard	13	01	13	" " WON	
	6	ENTER	01	00	" " DRAWN	
55	7 Set home games DRAWN on keyboard	5	01	05	" " DRAWN	
	8	ENTER	01	00	" " LOST	
60	9 Set home games LOST on keyboard	3	01	03	" " LOST	
65	10 (	ENTER	01	00	" " GOALS FOR	

	11	Set home GOALS FOR on keyboard	38	01	38	"	"	GOALS FOR	
5	12		ENTER	01	00	"	"	GOALS AGAINST	5
	13	Set home GOALS AGAINST on keyboard	15	01	15	"	"	GOALS AGAINST	
10						"	"		10
	14		ENTER	01	00	away team away results WON			
15		Use AWAY TEAM AWAY RESULTS in league tables							15
	15	Set away games WON on keyboard	9	01	09	"	"	WON	
20									20
	16		ENTER	01	00	"	"	DRAWN	
	17	Set away games DRAWN on keyboard	5	01	05	"	"	DRAWN	
25									
	18		ENTER	01	00	"	"	LOST	25
	19	Set away games LOST on keyboard	7	01	07	"	"	LOST	
30									
	20		ENTER	01	00	away team away results, GOALS FOR			30
	21	Set away GOALS FOR on keyboard	29	01	29	"	"	GOALS FOR	35
35									
	22		ENTER	01	00	"	"	GOALS AGAINST	
40									40
	23	Set away GOALS AGAINST on keyboard	28	01	28	"	"	GOALS AGAINST	
45									
	24		ENTER	01	00				45
		If it is wished to use LEVEL, FAVOUR or FORECAST CHOICE read on from step 30 If not:							
50									50
	25	Calculate match percentages	MATCH FORECAST	01	14	SCORE DRAW%			
55									55

At this stage, the user can go back to Step 2 for the next match (the last calculations having been remembered by the device's computer) but if the user wishes to look at the results for the last match in detail, then he carries on as follows:

	26	MATCH FORECAST	01	29	DRAW%	
5	27	MATCH FORECAST	01	25	AWAY WIN%	5
	28	MATCH FORECAST	01	46	HOME WIN%	
10	Continued pressing of MATCH FORECAST will cycle through Steps 25-28. For the purpose of the calculations in Steps 25-28, the device's computer has assumed that the team records are from the same division, that is the user is using pure form, and that he required both scoring ability and match winning ability to be taken into account. From the data in the example, it can be seen that the chances of a score draw have been calculated at 14%, a draw at all at 29%, an away win at 25% and a home win at 46%. From these figures, a home win is predicted.					10
15	<i>To change a recorded and forecast match</i> If a user wishes to change any detail of a match that has already been recorded and forecast, that match number is entered and all of the information is re-entered as in Steps 2-24. The old information will be over-written and a forecast made and recorded. It is then necessary to start from Step 2 for the next match.					15
	<b>TO SET LEVEL</b>					
25	Step No.	Description	User Presses	Display match No.	Lights data (Indicating next step)	25
30		<i>To Set LEVEL</i> Perform steps 1-24		01 00		30
35	30	LEVEL		01 A1	LEVEL	35
		LEVEL		01 b1	LEVEL	
		LEVEL		01 C1	LEVEL	
40		LEVEL		01 d1	LEVEL	40
		LEVEL		01 A1	LEVEL	
45	That is, repeated pressing of LEVEL cycles the letters so that the letter desired may be selected. The letter on the display refers to the letters pertaining to LEVEL, namely: "A" = Same Div.; "b" = Home Hi-Div.; "C" = Home Lo-Div.; and "d" = Cup. "A" is the normal level which is automatically used if Step 30 is not used. "b" and "C" are to be used when the form relates to different divisions. The number appearing after the letters refers to the difference in levels in the cases of "b" and "C" or the emphasis put on "d", which can be also used for a local Derby. The number can be changed from the keyboard.					45
50	If the user wishes to use FAVOUR or FORECAST CHOICE, he carries on from Step 40, if not going to Step 25.					50

## TO SET FAVOUR

Step No.	Description	User Presses	Display match No.	Display data	Lights (Indicating next step)	
5						5
	<i>To Set FAVOUR</i>					
	Perform steps 1-24 (plus step 30 if LEVEL used)					
10			01	00		10
40		FAVOUR	01	A1	FAVOUR	
15		FAVOUR	01	b1	FAVOUR	15
		FAVOUR	01	C1	FAVOUR	
		FAVOUR	01	d1	FAVOUR	
20		FAVOUR	01	A1	FAVOUR	20

That is, repeated pressing of FAVOUR cycles the letters so the letter wanted may be selected. The letter on the display refers to the letters pertaining to FAVOUR, namely: "A" = Pure Form; "b" = Home; "C" = Away; and "d" = draw. "A" is the normal favour which is automatically used if step 40 is not used. "b", "C" or "d" is the result that is favoured by the user. The number appearing after the letter on the display refers to the emphasis that the user wishes to put on the result by favour. The number can be changed from the keyboard. If the user wishes to use FORECAST CHOICE he carries on from Step 50, if not going to Step 25.

30 TO SET FORECAST CHOICE

Step No.	Description	User Presses	Display match No.	Display data	Lights (Indicating next step)	
35						35
	<i>To set FORECAST CHOICE</i>					
	Perform steps 1-24 (plus step 30 if LEVEL used) (plus 40 if FAVOUR used)					
40			01	00		40
45		FORECAST CHOICE	01	A	FORECAST CHOICE	45
50		FORECAST CHOICE	01	b	FORECAST CHOICE	50
		FORECAST CHOICE	01	C	FORECAST CHOICE	
55		FORECAST CHOICE	01	d	FORECAST CHOICE	55
		FORECAST CHOICE	01	A	FORECAST CHOICE	
60						60

That is, repeated pressing of FORECAST CHOICE cycles the letters so that the desired letter may be selected.

The letter on the display refers to the letters pertaining to FORECAST CHOICE, namely: "A" = Full Record; "b" = Score Ability; "C" = Win Ability; and "d" = Pure Luck. "A" uses the combined scoring and match



winning abilities of the teams. This is the normal choice that is automatically used if Step 50 is not used. "b" uses only the scoring performance of the teams. "C" uses only the match result of the teams. "d" generates random numbers for the percentage chances and this selection can be used without Steps 1-24. The user, after Step 50, goes to Step 25.

5	TO SELECT BEST FORECAST					5
10	Step No.	Description	User Presses	Display match No.	data Lights (indicating next step)	10
15	<b>To SELECT BEST FORECAST</b> Perform steps 1-24 (plus steps 30, 40 & 50 as required) for all matches to be considered e.g. 55					15
20	60	<i>Score Draws</i> Finds best score draw %	SCORE DRAWS	27	52 SCORE DRAW %	20
25	61	Finds next best score draw %	SCORE DRAWS	38	51 SCORE DRAW %	25
30	62	Finds third best score draw %	SCORE DRAWS	07	49 SCORE DRAW %	30
		and so on through all the matches....				
		<i>Draws</i>				
35	70	Finds best draw %	DRAWS	27	56 DRAW %	35
	71	Finds next best draw %	DRAWS	07	55 DRAW %	
40		and so on through all the matches....				40
		<i>Away Wins</i>				
45	80	Finds best away win %	AWAY WINS	29	61 AWAY WIN %	45
	81	Finds next best away win %	AWAY WINS	11	57 AWAY WIN %	
50		and so on through all the matches....				50
		<i>Home Wins</i>				
55	90	Finds best home win %	HOME WINS	19	87 HOME WIN %	55
	91	Finds next best home win %	HOME WINS	47	80 HOME WIN %	
60		and so on through all the matches....				60

# TO COMPUTE A PURE LUCK FORECAST FOR ALL MATCHES

5	Step No.	Description	User Presses	Display match No.	data	Lights (Indicating next step)	5
10		<i>To compute a PURE LUCK forecast for all matches</i>					10
15	100	Switch power ON	Slide switch to ON	01			15
20	101		MATCH No.	00			20
25	102	Set MATCH No. on keyboard	1	01			25
30	103		FORECAST CHOICE	01	d	FORECAST CHOICE	30
35	104		MATCH FORECAST	01	27 (e.g.)	SCORE DRAW %	35
40		Repeat steps 101-104 for each match					40
45	110	Select best results as detailed in steps 60-91					45
50		Figure 2 is a flow chart showing the sequence of operations that may be carried out by the device's computer under the control of its programs. The statistical data gates are operated on by a program in the computer which is based on statistical data over five years' records regarding goal scoring ability to operate on K depending on its value, as shown, to give a particular value of L, and in dependence on the value of L there are given particular values of the percentage probability of a home win, an away win and a draw. If desired, these may be fed as values M, N and P respectively directly for further processing via the form gates. However, if desired, another program is available for use whereby the arithmetic mean of past match results passes via the match winning ability gate to give the values for M, N and P or, under the control of yet another program which is available, corresponding outputs of the match winning ability gate and the goal scoring ability gate are averaged to give respective values of M, N and P.					50
55		Via the form gates, if only pure form is being used or the teams are in the same division, then values M, N and P are passed on unaltered whereas, otherwise, these values are weighted as shown in dependence on the indicated preferences or relevant facts as indicated. The values M, N, and P, either unaltered or weighted, are then further processed as indicated for feeding into memory the percentage probabilities of a draw, a score draw, an away win and a home win.					55
60		Finally, the lowest blocks in the flow chart refer to operations which are carried out when the device's computer is operated to give a pure luck forecast. To summarise, in the FORECAST mode the computer is pre-programmed to produce from the inputs when in the RECORD mode the percentage chance of a home win, away win, draw, score draw, no score draw and most likely result. One program calculates the chance based on match winning records, another program calculates the chance based on goal scoring records and the results of the two programs by another program can be combined to calculate the chance based on all form information. The chance thus calculated may be varied at will by input of the standard of the league in which the individual teams play, by assessment of current form or favour for either team or personal assessment of the likely result. A further option produces a forecast based on pure luck using a random number generator.					60
		In the SELECT mode, all computed probabilities are withdrawn from memory for display in ranked order of probability as home win, away win, draw or score draw.					

## CLAIMS

1. An electronic computing device for giving an indication of the probable result of a football match, comprising a case, a pre-programmed microprocessor in the case, a keyboard on the case and a display on the case for displaying such a result. 5
2. A device according to claim 1 into which can be fed, via the keyboard, data relating to past performances of a pair of teams, the microprocessor being programmed for using such data in predicting the probable result of a match between the said teams and displaying on the display an indication of this result.
- 10 3. A device according to claim 2, wherein the microprocessor is programmed to operate on the basis of statistical data of past goal scoring records of teams for predicting the probability of future results and differentiating between no goal and score draws. 10
4. A device according to claim 3, wherein the microprocessor is programmed to operate on the basis of statistical data of past match results of teams for predicting the probability of future results.
- 15 5. A device according to claim 2, wherein the microprocessor is programmed to operate on the basis of statistical data of past goal scoring and match results of teams for predicting the probability of future results. 15
6. A device according to any preceding claim, wherein the predicted probability of a future result can be adjusted to any degree by the inclusion of data relating to a personal preference for a given team or result.
7. A device according to any preceding claim, wherein the predicted probability of a future result can be selected at random using basic statistical information unrelated to specific teams. 20
8. A device according to any preceding claim, wherein predicted results can be stored in a memory for recall and display by type in racked order.
9. An electronic computing device for giving an indication of the probable result of a football match, substantially as herein described with reference to the accompanying drawings.

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